

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 2003P15332WO	FOR FURTHER ACTION	See item 4 below
International application No. PCT/EP2004/053080	International filing date (<i>day/month/year</i>) 24 November 2004 (24.11.2004)	Priority date (<i>day/month/year</i>) 12 December 2003 (12.12.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant SIEMENS AKTIENGESELLSCHAFT		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 29 August 2006 (29.08.2006) Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Yolaine Cussac</div> e-mail: pt11@wipo.int
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PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	See Form PCT/ISA/210 (sheet 2)
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Applicant's or agent's file reference 2003P15332WO		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/EP2004/053080	International filing date (day/month/year) 24.11.2004	Priority date (day/month/year) 12.12.2003	
International Patent Classification (IPC) or both national classification and IPC B60T8/00			
Applicant SIEMENS AKTIENGESELLSCHAFT			

1. This opinion contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the opinion |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-17	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-17	NO
Industrial applicability (IA)	Claims	1-17	YES
	Claims		NO
2. Citations and explanations:			
1	Reference is made to the following documents:		
	D1: US 2002/056582 A1 (CHUBB ERIK CHRISTOPHER ET AL) 16 May 2002 (2002-05-16)		
	D2: WO 03/076228 A (DAIMLER CHRYSLER AG; BERNZEN, WERNER; HUBER, WILFRED; MAASS, VOLKER; S) 18 September 2003 (2003-09-18)		
2	INDEPENDENT CLAIM		
2.1	The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step within the meaning PCT Article 33(3).		
2.1.1	The document D1 is considered to be the closest prior art to the subject matter of claim 1. It discloses (the references between parentheses refer to this document) an arrangement for determining dynamic wheel loads of a wheeled vehicle (10), having a measuring device which is arranged or can be		

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citations and explanations supporting such statement

arranged in the wheeled vehicle (10), the measuring device being designed to measure at least two linear accelerations (32, 36) of the wheeled vehicle (10) which are respectively directed transversely with respect to one another, and two rotational speeds (28, 34) respectively of a rotational movement or of a component of a rotational movement about a coordinate axis of the wheeled vehicle (10), the three coordinate axes each extending transversely with respect to one another, and an evaluation device (18) which is combined with the measuring device and is designed to determine at least one axle load and/or one wheel load using the at least two linear accelerations and the two rotational speeds (see abstract and figure 3).

2.1.2 The subject matter of claim 1 therefore differs from that which is known from D1 in that the dynamic axle loads or wheel loads are determined using three instead of two rotational speeds.

2.1.3 The problem to be solved with the present invention can thus be considered to be that of calculating wheel load or axial load taking into account not only the yawing and rolling behaviour of the vehicle but also taking into account its pitching behaviour.

2.1.4 The solution proposed in claim 1 of the

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

present application cannot be considered to be inventive for the following reasons (PCT Article 33(3)): D2 discloses an arrangement for determining the driving behaviour of a vehicle which additionally registers the pitching behaviour of the vehicle and further processes it. This arrangement is also designed, *inter alia*, to calculate the dynamic axle loads and wheel loads (see page 18, line 7 to page 22, line 14).

2.1.5 For this reason, a person skilled in the art would combine all the features disclosed in D1 and D2 with one another in order to solve the problem of interest without thereby being inventive. The solution proposed in the independent claim 1 can therefore not be considered inventive (PCT Article 33(3)).

3 INDEPENDENT CLAIM 9

3.1 Taking the documents D1 and D2 as a basis, the subject matter of the corresponding method claim 9 cannot be considered inventive either.

4 INDEPENDENT CLAIM 17

4.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 17 does not involve an inventive step within the meaning of PCT Article

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citations and explanations supporting such statement

33(3).

4.1.1 Document D1 is considered to be the closest prior art to the subject matter of claim 17. It discloses a method for predicting a driving situation, which method detects the lifting off of a wheel or of a plurality of wheels by means of the calculation of the axle load and/or wheel load from claim 9, and initiates stabilization measures for the vehicle behaviour.

4.1.2 The subject matter of claim 17 therefore differs from that known from D1 in that a more precise calculation of the axle load and/or wheel load according to claim 9 is used.

4.1.3 The problem to be solved with the present invention can thus be considered to be that of predicting a driving situation while, *inter alia*, taking into account the pitching behaviour of the vehicle.

4.1.4 The solution proposed in claim 17 of the present application cannot be considered to be inventive for the following reasons (PCT Article 33(3)): D2 discloses a method for determining the driving behaviour of a vehicle which additionally registers the pitching behaviour of the vehicle.

4.1.5 For this reason, a person skilled in the art

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would combine all the features disclosed in D1 and D2 in order to solve the problem of interest without thereby being inventive. Therefore, the solution proposed in the independent claim 17 cannot be considered inventive (PCT Article 33(3)).

4.1.6 The use "of at least two axle loads and/or wheel loads calculated according to the method ..." instead of a single axle load value or wheel load value as in document D1 is also obvious for a person skilled in the art.

5 DEPENDENT CLAIMS 2-8, 10-16
Claims 2-8, 10-16 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT requirements for inventive step.

All the features of the dependent claims 2-8 and their corresponding method claims 10-16 are known from the prior art cited in the search report.

6. The subject matter of claims 1-17 is industrially applicable.